16 APR 1982

4/21/82

Potential Air Toxicant Problem: Monsanto, Sauget

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Over the past year, various people from a number of program offices have been working on a task force to examine the pollution problems in the Sauget area. Although the investigation has focused on groundwater and water contamination, air pollution appears to be a serious problem which warrants investigation.

The National Clean Air Coalition recently identified the Monsanto, Sauget plant as the second largest emitter of toxic pollutants in Illinois. (Attachment A). This listing of pollution sources was compiled primarily from a study prepared by Systems Applications, Inc. (SAI) for OAQPS. The report made population exposure assessments for 35 selected air toxicants. In terms of total dosage to exposed populations from these suspected airborne carcinogens, the study identifies Monsanto's Sauget plant as the 6th most significant air pollution "hot spot" in the United States and the most significant such source in Region V.

In addition to the SAI's exposure assessment, there are other sources of technical information in Region V which may be helpful to a review of the air toxicant problems in Sauget. There are 2 studies which identify the production processes at the Monsanto plant and a 1974 Air Pollutant Emissions Report (APER). These reports are briefly described in Attachment B. Together these reports provide information which indicates a need for additional investigation and provides a foundation for such study.

The Sauget Task Force has suggested that the air problems in Sauget be investigated. This recommendation was made at the April 7, 1982 interdivisional briefing session. By this memo, I am requesting your assistance in reviewing the air toxicant problem related to Sauget, particularly the Monsanto plant. Below are those areas which would be helpful in assessing the need for any enforcement actions. Please let me know who will be responsible for the investigation and scope and duration for each task.

1. The SAI report identified 6 air toxicants which are emitted by the Monsanto plant. In assessing whether a public health problem exists, we need to know the ambient concentrations of Benzyl chloride, Chlorobenzene, o-Dichlorobenzene, p-Dichlorobenzene, 2,3,7,8 - TCDD (dioxin) and Toluene, which have a deleterious effect on human health and welfare.

2. A determination of the area and population the Monsanto plant affects with the identified ambient concentrations. The modeling parameters to make such determination are already identified in the SAI report and in the APER. The isoplethic lines from the modeling could then be overlain on some of the aerial photographs to identify the impacted population.

3. Whether we have the ability, and need, to perform an epidemiological study on the impacted population.

4. In preparation for the warmer months, a monitoring survey for the above, and other organic emissions. Monitors placed in predicted impact areas can verify the results of the modeling. Monitors should also be located in population areas to determine organic concentrations from all sources of organic emissions. Monitoring would be helpful to determine if air toxicant emissions are being generated from other sources, e.g., the Sauget wastewater treatment plant and leachate streams flowing from the Sauget Toxic Dump. This could be jointly performed by the Environmental Services Division and a consultant, e.g., Envirodyne Engineers, Inc. which is located in nearby St. Louis.

5. In conjunction with the monitoring, a survey should be conducted of the potential contributors of the organic emissions. If the monitoring data can be analyzed for specific organics, it may be possible to determine the primary sources responsible for the organic levels.

6. Review the available Monsanto APER and process information to determine whether the present VOC and particulate emissions are complying with regulations in the State Implementation Plan. Priority attention should be given to the process streams associated with the chemicals identified in the SAI report. Since the APER was received in 1974, an update should be requested as soon as possible. Envirodyne Engineers has expressed a specific interest in expanding its investigations to include a study of air pollution emission rates associated with specific Krummrich production operations. (Attachment C).

7. Milt Clark recently took some photographs which showed substantial visible emissions generated by Midwest Rubber and Cerro Copper. A compliance assessment should be made of those facilities.

8. The State should be contacted to determine if there is any additional air emission data which would be helpful, and to see what air enforcement actions are pending and planned.

This is a substantial amount of technical work which will entail significant resources. These resources will be well spent because of this Agency's concern with spending resources where there is significant environmental harm. The air studies will complement the investigative and emforcement plans being made for the water and hazardous waste problems.

Attachments

cc: Sutfin (5W-12)
Wagner (5SEM)
Constantelos (5H-TUB)
Stringham (5H-TUB)
Sanders (5S)
Kertcher (5AC-13)

bcc: Ullrich/M. Smith
Grimes/Schulteis/Daggett
Clark (5H-TUB)
Holoska (5WQ-13)
O'Toole (5H-TUB)

Attachment A

Chemicals in air pose area cancer risk, group warns

By Bruce Ingersoll
Sun-Times Bureau

WASHINGTON—Thousands of Illinois and Indiana residents living downwind of petrochemical plants, coke ovens and other industries are inhaling chemicals that can cause cancer and other deadly diseases, a coalition of environmental groups and labor unions warned Tuesday.

The U.S. Environmental Protection Agency has been studying 37 potentially toxic chemicals for many years, but has failed to set any emission standards for them, the National Clean Air Coalition charged.

The coalition released a list of 312 major plants across the country, including 10 in the Chicago area and six in the Gary, Ind., area, that it said are discharging at least 10,000 pounds of chemical pollutants a year into the air.

THE LIST WAS compiled from air-pollution reports issued by the EPA over the last three years, said David D. Doniger, an attorney for the Natural Resources Defense Council and a coalition spokesman.

"All told, more than 3 billion pounds of these chemicals are spewed into the air we breathe each year," Doniger said here at a press conference. "Within 10 kilometers [just over 6 miles] of these plants, there are millions of people breathing these pollutants 'round the clock every day."

He cited an estimate in one EPA-commissioned study that more than 115,000 residents living within 10 kilometers of Clark Oil & Refining Corp.'s facility in south suburban Blue Island are exposed to benzene emissions from storage tanks.

THE EPA ONCE recognized benzene, radionucleides and arsenic as "hazardous," but it let the statutory deadlines for setting standards pass without taking any regulatory action, Doniger said.

The coalition's list has Clark Oil discharging 146,520 pounds of phenol a year, but it does not mention any specific emissions from benzene tanks.

The largest Chicago polluter listed is Sherwin-Williams Co., reported to be emitting 133,000 pounds of toluene and p-cresol a year. Its emissions, however, are dwarfed by those of two Downstate companies. The Borg-Warner Chemicals plant of Borg Warner Corp. in Rutland Township near Ottawa is listed as discharging 852,300 pounds of acrylonitrile a year and Monsanto Co. in Sauget, near East St. Louis, 463,694 pounds of chlorobenzene and other chemicals a year.

WITH AN ANNUAL emission of 103,200 pounds of mixed xylenes, Amoco in Whiting is ranked as northern Indiana's largest chemical polluter.

Two coke-oven facilities operated by steel companies in Chicago and five in northeastern Indiana are listed as discharging at least 10,000 pounds of polycyclic organic matter

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Illinois factories named for polluting

WASHINGTON (UPI)—Here is a list of plants in Illinois named by the National Clean Air Coalition as emitting more than 10,000 pounds of toxic pollutants annually. The list includes the name of the company, location and amount of emissions per year in pounds. Coke oven plants are listed without emission weights.

ILLINOIS

Allied Chemical Corp., Specialty Chemical Division, Danville, 58,460.
Amoco Pipeline Co., Manhattan Township, near Joliet, 98,000.
Borg Warner Corp., Rutland Township, near Ottawa, 852,300.
Clark Oil and Refining Corp., Blue Island, 146,520.
H. Kohnstamm and Co. Inc., Chicago, 44,625.
Koppers Co. Inc., Cicero, 33,600.
Mobil Oil Corp., Joliet, 110,000.
Monsanto Co., Sauget, 463,694.
Northern Petrochemical Co., East Morris, 89,930.
Sherwin-Williams Co., Chicago, 133,000.
Stepan Chemical Co., Millsdale, 14,200.
Union Chemicals and Oil Co., Chicago, 15,460.

Coke Oven Plants

Granite City, Granite City Steel Division, National Steel Corp.
Chicago, Chicago plant, Interlake Inc.
South Chicago, South Chicago plant, Republic Steel Corp.